

**ABSTRACT OF THE DISCLOSURE**

A technique for enabling a shared storage provider (SSP) to provide shared data storage to a plurality of customers while providing greater privacy and security of each customer's data by implementing a virtual private (VP) addressing scheme is disclosed. The technique also allows a storage networking service carrier to provide connectivity between a plurality of customer storage networking sites, keeping each customer separate from each other. In one embodiment, the technique is realized by network architecture and a scheme to separate and virtualize storage traffic and stored data on a shared infrastructure. Functionally, the scheme provides for the following features: translation between user storage network addresses to carrier addresses; recovery of user storage network addresses when data is returned to the user; use of the carrier assigned addresses to separate the users within the carrier's network; recognition of user storage address within the storage device for partitioning within the user's storage space assigned by the SSP; Storage virtualization or the logical representation of a storage independently of its physical organization; and the displacement of address mapping and virtualization functions away from devices directly attached to storage. All of the above can be implemented singly or in combination, by any networking technology including SONET, ATM, IP, Ethernet and Fiber Channel network technologies.